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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,067	01/23/2004	Robert Turcott	VT0282-US3	8000

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EXAMINER
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LAYNO, CARL HERNANDZ

ART UNIT	PAPER NUMBER
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3766

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/764,067

Applicant(s)

TURCOTT, ROBERT

Examiner

Carl H. Layno

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 10-12, 15, 16, 19, 23 and 24 is/are rejected.
- 7) ☒ Claim(s) 2-9, 13, 14, 17, 18, 20-22 and 25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/23/2004.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for priority filing as a Continuation-In-Part (CIP) of U.S. Application Serial No. 10/208,081, filed July 29, 2002, now U.S. Patent No. 6,942,622, which is a Continuation-In-Part (CIP) of U.S. Application Serial No. 09/467,298, filed December 17, 1999, now U.S. Patent No. 6,480,733, which is a Continuation-In-Part (CIP) of U.S. Application Serial No. 09/438,017, filed November 10, 1999, now U.S. Patent No. 6,409,675.

### ***Information Disclosure Statement***

2. Acknowledgment is made of applicant's Information Disclosure Statement (PTO-1449), which was received by the Office on January 23, 2004.

### ***Drawings***

3. The drawings are objected to because of minor informalities. See attached PTO-948 for the Draftsperson's Comments. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the

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remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

4. The disclosure is objected to because of the following informalities:

-p.1 of the specification, paragraph [0001], the status of U.S Application Serial No. 10/208,081 should be updated to reflect the fact that this is now U.S. Patent No. 6,942,622.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is no antecedent basis for the term "The system of claim 15" in line 1. To overcome this rejection, the Examiner recommends changing this language to "The method of claim 15".

*Claim Rejections - 35 USC § 102*

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claims 1, 10, 11, 15, 16, 19, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Kieval et al (US 5,554,177).

In regard to claims 1, 10, 11, and 23, the Kieval et al (US 5,554,177) patent describes an implantable dual-chambered pacer (Fig.5) equipped with an acoustic detector/microphone 52 for sensing heart sounds S1, S2, indicative of cardiac contractions, as well as mitral valve regurgitation (MR) sounds. The pacer of Kieval et al optimizes its AV delay based upon the

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detected heart sound amplitude MRSA (or SA) associated with the MR sounds (or heart sound amplitude (SA) in general) (col.4, lines 10-26). See the equations of col.4, lines 10 and 20.

In regard to claims 15, 16, and 19, Fig.5 shows pacemaker circuitry **59**, heart sound processing circuits **55** and **56** for producing signals indicative of cardiac contractions, and a processor **57**, which adjusts the AV delay based upon the sensed heart sound information (col.6, lines 59-61).

9. Claims 1, 10, 12, 15, 16, 19, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Baumann et al (US 5,836,987).

In regard to claims 1, 10, 12, and 24, the Baumann et al (US 5,836,987) patent describes an implantable pacemaker (Fig.1), which senses a patient's heart activity using an accelerometer **50** (Fig.1). Heart events (e.g. contractions) may be associated with separate identified amplitudes (Abstract, line 12) or frequencies of the accelerometer signal since these frequencies may be associated with heart sounds S1 and S2 (col.3, lines 17-23). This sensed accelerometer signal is used to determine which timing intervals optimize cardiac performance (Abstract, lines 16-18).

In regard to claims 15 and 16, AV delay, V-V pacing, and A-A pacing intervals may all be affected (Abstract, lines 18-21).

In regard to claim 19, the pacer **10** (Fig.1) includes a pacing pulse generator circuit **42**, an accelerometer **50** which performs the function of applicant's "means for producing", and a microprocessor **34** for performing pacing interval optimization adjustments.

Allowable Subject Matter

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10. Claims 2-9, 13, 14, 17, 18, 20-22, and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Nappholz et al (US 5,188,106) is cited for its pertinent use of ultrasonic transducer for detecting blood flow volumes. Unlike applicant's device, no pacing related intervals are affected based upon detected amplitudes of detected return ultrasonic signals.

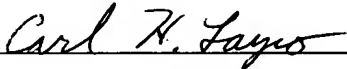
The Bornzin et al (US 5,549,650) patent describes an implantable pacemaker **20** (Fig.1) which utilizes a heart wall motion sensor/accelerometer **22** based signal to find an optimal pacing therapy for the patient while at rest (Abstract). Unlike applicant's device the accelerometer signal frequency is of more interest rather than the accelerometer signal's amplitude in the adjustment of pacing therapy.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl H. Layno whose telephone number is (571) 272-4949. The examiner can normally be reached on 9/4/5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert E. Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



CARL LAYNO  
PRIMARY EXAMINER

CHL  
8/30/2006